CLAIMS

What is claimed is:

1.   A method of responding to a request for data from a server operated by an enterprise on a network, the request based on an enterprise-specific vocabulary of names and relationships among the names, the names naming enterprise products and services and activities and data, the method comprising the steps of:

    generating and storing a first concept in association with a first relationship of a first relationship type and a second relationship of a second relationship type; and

    responding to the request based on the first concept and the second relationship, wherein,

    the first concept is one of a plurality of atomic concepts among names in the enterprise-specific vocabulary,

    the first concept is associated with a first category of a plurality of categories that encompass the enterprise-specific vocabulary;

    the first relationship type relates at least two concepts of the plurality of atomic concepts associated with the first category, and

    the second relationship type relates at least one of the two concepts related by the first relationship with at least one different concept of the plurality of atomic concepts.

2.   A method of responding to a request for data from a server operated by an enterprise, the server managing data comprising a plurality of categories of information, the request based on a value in a first category of the plurality of categories, the data requested belonging to a second category of the plurality of categories, the method comprising the steps of:

    generating and storing a first concept in association with a first relationship of a first relationship type and a second relationship of a second relationship type; and

    responding to the request based on the first concept and the second relationship, wherein,

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9		the first concept is one of a plurality of atomic concepts among the data
10		managed by the server,
11		the first concept is associated with the first category of the plurality of
12		categories;
13		the first relationship type relates at least two concepts of the plurality of
14		atomic concepts associated with the first category, and
15		the second relationship type relates at least one of the two concepts related by
16		the first relationship with at least one concept of the plurality of atomic
17		concepts associated with the second category of the plurality of
18		categories.

1	3.	A method as recited in Claim 2, wherein:
2		the first category is one of a products category, a services category, an activities
3		category and a document category; and
4		the second category is a different one of the products category, the services category,
5		the activities category and the document category.

1	4.	A method of processing enterprise data generated by an enterprise, the method
2	comprising the step of:
3		generating and storing a first concept in association with a first relationship of a first
4		relationship type and a second relationship of a second relationship type,
5	wherein,
6		the first concept is one of a plurality of atomic concepts within the enterprise
7		data,
8		the first concept is associated with a first category of a plurality of categories
9		that encompass the enterprise data;
10		the first relationship type relates at least two concepts of the plurality of
11		atomic concepts associated with the first category, and
12		the second relationship type relates at least one of the two concepts related by
13		the first relationship with at least one different concept of the plurality
14		of atomic concepts.

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1   5.   A method as recited in Claim 4, further comprising the step of processing some data

2   of the enterprise data based on the first concept and the second relationship.

1   6.   A method as recited in Claim 4, wherein the second relationship type relates a number

2   of concepts of the plurality of atomic concepts associated with the first category that differs

3   in number from the at least two concepts.

1   7.   A method as recited in Claim 4, wherein the second relationship type relates at least

2   one concept of the plurality of atomic concepts associated with the first category to at least

3   another concept of the plurality of atomic concepts associated with a second category of the

4   plurality of categories.

1   8.   The method as recited in Claim 4, wherein concepts in the first category are

2   represented as nodes connected by relationships of the first relationship type along one or

3   more branches of a first type hierarchy to a first root node representing a first root concept for

4   the first category:

1   9.   The method as recited in Claim 8, wherein the first root node has a "child of"

2   relationship to an enterprise data root node representing an enterprise data root concept.

1   10.   The method as recited in Claim 9, wherein a second root node corresponding to a

2   second root concept for a second category of the plurality of categories has a "child of"

3   relationship to the enterprise data root node.

1   11.   The method as recited in Claim 4, wherein an association among the first concept and

2   the first relationship and the second relationship is provided by a relational database.

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1 12.   The method as recited in Claim 4, wherein the first concept is stored as a record in a

2 first data store table, said record including a concept name field for storing a name of the first

3 concept.

1 13.   The method as recited in Claim 12, wherein every record in the first data store table

2 stores a name of a concept of the plurality of atomic concepts associated with the first

3 category.

1 14.   The method as recited in Claim 4, wherein the first relationship is stored as a first

2 unique record in a relationship data store table, said first unique record including a

3 relationship type field for storing a name of the first relationship type.

1 15.   The method as recited in Claim 14, wherein a name of the first concept is stored in a

2 participant field in a record in a relationship participant data store table, said record including

3 a relationship identification field for storing data indicating the first unique record in the

4 relationship data store table.

1 16.   The method as recited in Claim 14, wherein the second relationship is stored as a

2 second unique record in the relationship data store table, said second unique record storing a

3 name of the second relationship type in the relationship type field.

1 17.   The method as recited in Claim 16, wherein a name of the first concept is stored in a

2 participant field in a first record in a relationship participant data store table, said first record

3 including a relationship identification field for storing data indicating the second unique

4 record in the relationship data store table.

1   18.   The method as recited in Claim 16, wherein a name of the first concept is stored in a
2   participant field in a first record in a relationship participant data store table, said first record
3   including a relationship identification field for storing data indicating the first unique record
4   in the relationship data store table.

1   19.   The method as recited in Claim 18, wherein the name of the first concept is stored in
2   the participant field in a second record in the relationship participant data store table, said
3   second record storing data in the relationship identification field for indicating the second
4   unique record in the relationship data store table.

1   20.   The method as recited in Claim 15, wherein a name of a role for the first concept is
2   stored in a role field in the record in the relationship participant data store table.

1   21.   The method as recited in Claim 4, wherein one or more attributes of at least one of the
2   first concept and the first relationship and the second relationship are stored in an attributes
3   data store table.

1   22.   The method as recited in Claim 4, further comprising generating and storing a rule
2   associated with at least one of the first relationship type and the second relationship type and
3   a category of the plurality of categories.

1   23.   The method as recited in Claim 22, wherein the rule constrains a second concept
2   which may be related to the first concept by the at least one of the first relationship type and
3   the second relationship type.

1   24.   The method as recited in Claim 22, wherein the rule is stored in a relational database
2   table.

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1   25.   A method of processing enterprise data generated by an enterprise, the method

2   comprising the steps of:

3   generating a plurality of categories that encompass the enterprise data;

4   generating a plurality of atomic concepts within the enterprise data;

5   generating a first relationship type to relate at least two concepts of the plurality of

6   atomic concepts associated with a first category of the plurality of categories;

7   generating a second relationship type to relate at least one of the at least two concepts

8   related by the first relationship type to at least one different concept of the

9   plurality of atomic concepts;

10   storing a first concept of the plurality of atomic concepts, said first concept associated

11   with the first category;

12   generating a first relationship of the first relationship type with the first concept;

13   generating a second relationship of the second relationship type with the first concept;

14   and

15   storing the first relationship and the second relationship in association with the first

16   concept.

1   26.   A method as recited in Claim 25, further comprising the step of processing some data

2   of the enterprise data based on the first concept and the second relationship.

1   27.   A method as recited in Claim 25, wherein the second relationship type relates a

2   number of concepts of the plurality of atomic concepts associated with the first category that

3   differs in number from the at least two concepts.

1   28.   A method as recited in Claim 25, wherein the second relationship type relates at least

2   one concept of the plurality of atomic concepts associated with the first category to at least

3   another concept of the plurality of atomic concepts associated with a second category of the

4   plurality of categories.

1 29. The method as recited in Claim 25, wherein concepts in the first category are
2 represented as nodes connected by relationships of the first relationship type along one or
3 more branches of a first type hierarchy to a first root node representing a first root concept for
4 the first category:

1 30. The method as recited in Claim 29, wherein the first root node has a "child of"
2 relationship to an enterprise data root node representing an enterprise data root concept.

1 31. The method as recited in Claim 30, wherein a second root node corresponding to a
2 second root concept for a second category of the plurality of categories has a "child of"
3 relationship to the enterprise data root node.

1 32. The method as recited in Claim 25, wherein an association among the first concept
2 and the first relationship and the second relationship is provided by a relational database.

1 33. The method as recited in Claim 25, said step of storing the first concept further
2 comprising:
3   storing the first concept as a record in a first data store table; and
4   storing a name of the first concept in a concept name field in said record.

1 34. The method as recited in Claim 33, wherein every record in the first data store table
2 stores a name of a concept of the plurality of atomic concepts associated with the first
3 category.

1   35.   The method as recited in Claim 25, said step of storing the first relationship and the

2   second relationship further comprising:

3   storing the first relationship as a first unique record in a relationship data store table;

4   and

5   storing a name of the first relationship type in a relationship type field in said first

6   unique record.

1   36.   The method as recited in Claim 35, said step of storing the first relationship and the

2   second relationship further comprising:

3   storing a name of the first concept in a participant field in a record in a relationship

4   participant data store table; and

5   storing in a relationship identification field in said record in the relationship

6   participant data store table, data indicating the first unique record in the

7   relationship data store table.

1   37.   The method as recited in Claim 35, said step of storing the first relationship and the

2   second relationship further comprising:

3   storing the second relationship as a second unique record in the relationship data store

4   table; and

5   storing a name of the second relationship type in the relationship type field in said

6   second unique record..

1   38.   The method as recited in Claim 37, said step of storing the first relationship and the

2   second relationship further comprising:

3   storing a name of the first concept in a participant field in a first record in a

4   relationship participant data store table; and

5   storing in a relationship identification field in said first record in the relationship

6   participant data store table, data indicating the second unique record in the

7   relationship data store table.

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1   39.   The method as recited in Claim 37, said step of storing the first relationship and the
2   second relationship further comprising:
3   storing a name of the first concept in a participant field in a first record in a
4   relationship participant data store table; and
5   storing in a relationship identification field in said first record in the relationship
6   participant data store table, data indicating the first unique record in the
7   relationship data store table.

1   40.   The method as recited in Claim 39, said step of storing the first relationship and the
2   second relationship further comprising:
3   storing the name of the first concept in the participant field in a second record in the
4   relationship participant data store table; and
5   storing in the relationship identification field in said second record in the relationship
6   participant data store table, data indicating the second unique record in the
7   relationship data store table.

1   41.   The method as recited in Claim 36, said step of storing the first relationship and the
2   second relationship further comprising storing a name of a role for the first concept in a role
3   field in the record in the relationship participant data store table.

1   42.   The method as recited in Claim 25, said step of storing the first relationship and the
2   second relationship further comprising storing one or more attributes of at least one of the
3   first concept and the first relationship and the second relationship in an attributes data store
4   table.

1   43.   The method as recited in Claim 25, further comprising generating and storing a rule
2   associated with at least one of the first relationship type and the second relationship type and
3   a category of the plurality of categories.

1   44.   The method as recited in Claim 43, wherein the rule constrains a second concept

2   which may be related to the first concept by the at least one of the first relationship type and

3   the second relationship type.

1   45.   The method as recited in Claim 43, said step of generating and storing the rule further

2   comprising storing the rule in a relational database table.

1   46.   A computer-readable medium carrying one or more sequences of instructions for

2   responding to a request for data from a server operated by an enterprise on a network, the

3   request based on an enterprise-specific vocabulary of names and relationships among the

4   names, the names naming enterprise products and services and activities and data, which

5   instructions, when executed by one or more processors, cause the one or more processors to

6   carry out the steps of:

7   generating and storing a first concept in association with a first relationship of a first

8   relationship type and a second relationship of a second relationship type; and

9   responding to the request based on the first concept and the second relationship,

10   wherein,

11   the first concept is one of a plurality of atomic concepts among names in the

12   enterprise-specific vocabulary,

13   the first concept is associated with a first category of a plurality of categories

14   that encompass the enterprise-specific vocabulary;

15   the first relationship type relates at least two concepts of the plurality of

16   atomic concepts associated with the first category, and

17   the second relationship type relates at least one of the two concepts related by

18   the first relationship with at least one different concept of the plurality

19   of atomic concepts.

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1   47.   A computer-readable medium carrying one or more sequences of instructions for

2   responding to a request for data from a server operated by an enterprise, the server managing

3   data comprising a plurality of categories of information, the request based on a value in a first

4   category of the plurality of categories, the data requested belonging to a second category of

5   the plurality of categories, which instructions, when executed by one or more processors,

6   cause the one or more processors to carry out the steps of:

7   generating and storing a first concept in association with a first relationship of a first

8   relationship type and a second relationship of a second relationship type; and

9   responding to the request based on the first concept and the second relationship,

10   wherein,

11   the first concept is one of a plurality of atomic concepts among the data

12   managed by the server,

13   the first concept is associated with the first category of the plurality of

14   categories;

15   the first relationship type relates at least two concepts of the plurality of

16   atomic concepts associated with the first category, and

17   the second relationship type relates at least one of the two concepts related by

18   the first relationship with at least one concept of the plurality of atomic

19   concepts associated with the second category of the plurality of

20   categories.

1   48.   A computer-readable medium carrying one or more sequences of instructions for

2   processing enterprise data generated by an enterprise, which instructions, when executed by

3   one or more processors, cause the one or more processors to carry out the step of:

4   generating and storing a first concept in association with a first relationship of a first

5   relationship type and a second relationship of a second relationship type,

6   wherein,

7   the first concept is one of a plurality of atomic concepts within the enterprise

8   data,

9	the first concept is associated with a first category of a plurality of categories
10	that encompass the enterprise data;
11	the first relationship type relates at least two concepts of the plurality of
12	atomic concepts associated with the first category, and
13	the second relationship type relates at least one of the two concepts related by
14	the first relationship with at least one different concept of the plurality
15	of atomic concepts.

1 49. A computer-readable medium carrying one or more sequences of instructions for
2 processing enterprise data generated by an enterprise, which instructions, when executed by
3 one or more processors, cause the one or more processors to carry out the steps of:
4   generating a plurality of categories that encompass the enterprise data;
5   generating a plurality of atomic concepts within the enterprise data;
6   generating a first relationship type to relate at least two concepts of the plurality of
7   atomic concepts associated with a first category of the plurality of categories;
8   generating a second relationship type to relate at least one of the at least two concepts
9   related by the first relationship type to at least one different concept of the
10   plurality of atomic concepts;
11   storing a first concept of the plurality of atomic concepts, said first concept associated
12   with the first category;
13   generating a first relationship of the first relationship type with the first concept;
14   generating a second relationship of the second relationship type with the first concept;
15   and
16   storing the first relationship and the second relationship in association with the first
17   concept.

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1   50.   A system for responding to a request for data from a server operated by an enterprise

2   on a network, the request based on an enterprise-specific vocabulary of names and

3   relationships among the names, the names naming enterprise products and services and

4   activities and data, comprising:

5   a means for generating and storing a first concept in association with a first

6   relationship of a first relationship type and a second relationship of a second

7   relationship type; and

8   a means for responding to the request based on the first concept and the second

9   relationship,

10   wherein,

11   the first concept is one of a plurality of atomic concepts among names in the

12   enterprise-specific vocabulary,

13   the first concept is associated with a first category of a plurality of categories

14   that encompass the enterprise-specific vocabulary;

15   the first relationship type relates at least two concepts of the plurality of

16   atomic concepts associated with the first category, and

17   the second relationship type relates at least one of the two concepts related by

18   the first relationship with at least one different concept of the plurality

19   of atomic concepts.

1   51.   A system for responding to a request for data from a server operated by an enterprise,

2   the server managing data comprising a plurality of categories of information, the request

3   based on a value in a first category of the plurality of categories, the data requested belonging

4   to a second category of the plurality of categories, comprising:

5   a means for generating and storing a first concept in association with a first

6   relationship of a first relationship type and a second relationship of a second

7   relationship type; and

8   a means for responding to the request based on the first concept and the second

9   relationship,

10   wherein,

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11   the first concept is one of a plurality of atomic concepts among the data

12   managed by the server,

13   the first concept is associated with the first category of the plurality of

14   categories;

15   the first relationship type relates at least two concepts of the plurality of

16   atomic concepts associated with the first category, and

17   the second relationship type relates at least one of the two concepts related by

18   the first relationship with at least one concept of the plurality of atomic

19   concepts associated with the second category of the plurality of

20   categories.

1   52.   A system for processing enterprise data generated by an enterprise, comprising:

2   a means for generating and storing a first concept in association with a first

3   relationship of a first relationship type and a second relationship of a second

4   relationship type; and

5   a means for processing some of the enterprise data based on the first concept and the

6   second relationship,

7   wherein,

8   the first concept is one of a plurality of atomic concepts within the enterprise

9   data,

10   the first concept is associated with a first category of a plurality of categories

11   that encompass the enterprise data;

12   the first relationship type relates at least two concepts of the plurality of

13   atomic concepts associated with the first category, and

14   the second relationship type relates at least one of the two concepts related by

15   the first relationship with at least one different concept of the plurality

16   of atomic concepts.

1   53.   A system for processing enterprise data generated by an enterprise, comprising:

2   a means for generating a plurality of categories that encompass the enterprise data;

3   a means for generating a plurality of atomic concepts within the enterprise data;

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4   a means for generating a first relationship type to relate at least two concepts of the

5   plurality of atomic concepts associated with a first category of the plurality of

6   categories;

7   a means for generating a second relationship type to relate at least one of the at least

8   two concepts related by the first relationship type to at least one different

9   concept of the plurality of atomic concepts;

10   a means for storing a first concept of the plurality of atomic concepts, said first

11   concept associated with the first category;

12   a means for generating a first relationship of the first relationship type with the first

13   concept;

14   a means for generating a second relationship of the second relationship type with the

15   first concept; and

16   a means for storing the first relationship and the second relationship in association

17   with the first concept.

1   54.   A system for responding to a request for data from a server operated by an enterprise

2   on a network, the request based on an enterprise-specific vocabulary of names and

3   relationships among the names, the names naming enterprise products and services and

4   activities and data, the system comprising:

5   a database for storing a first concept in association with a first relationship of a first

6   relationship type and a second relationship of a second relationship type; and

7   a processor configured as an applications programming interface for responding to the

8   request based on the first concept and the second relationship,

9   wherein,

10   the first concept is one of a plurality of atomic concepts among names in the

11   enterprise-specific vocabulary,

12   the first concept is associated with a first category of a plurality of categories

13   that encompass the enterprise-specific vocabulary;

14   the first relationship type relates at least two concepts of the plurality of

15   atomic concepts associated with the first category, and

16   the second relationship type relates at least one of the two concepts related by

17   the first relationship with at least one different concept of the plurality

18   of atomic concepts.

1   55.   A system for responding to a request for data from a server operated by an enterprise,

2   the server managing data comprising a plurality of categories of information, the request

3   based on a value in a first category of the plurality of categories, the data requested belonging

4   to a second category of the plurality of categories, the system comprising:

5   a database for storing a first concept in association with a first relationship of a first

6   relationship type and a second relationship of a second relationship type; and

7   a processor configured as an application program interface for responding to the

8   request based on the first concept and the second relationship,

9   wherein,

10   the first concept is one of a plurality of atomic concepts among the data

11   managed by the server,

12   the first concept is associated with the first category of the plurality of

13   categories;

14   the first relationship type relates at least two concepts of the plurality of

15   atomic concepts associated with the first category, and

16   the second relationship type relates at least one of the two concepts related by

17   the first relationship with at least one concept of the plurality of atomic

18   concepts associated with the second category of the plurality of

19   categories.

1   56.   A system for processing enterprise data generated by an enterprise, comprising:

2   a database for storing a first concept in association with a first relationship of a first

3   relationship type and a second relationship of a second relationship type; and

4   a processor configured as an application program interface for responding to a request

5   from a client process for processing some of the enterprise data based on the

6   first concept and the second relationship,

7   wherein,

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8   the first concept is one of a plurality of atomic concepts within the enterprise
9   data,
10   the first concept is associated with a first category of a plurality of categories
11   that encompass the enterprise data;
12   the first relationship type relates at least two concepts of the plurality of
13   atomic concepts associated with the first category, and
14   the second relationship type relates at least one of the two concepts related by
15   the first relationship with at least one different concept of the plurality
16   of atomic concepts.

1   57.   A system for processing enterprise data generated by an enterprise, comprising:
2   a computer readable persistent storage medium; and
3   a processor configured for
4   generating a plurality of categories that encompass the enterprise data,
5   generating a plurality of atomic concepts within the enterprise data,
6   generating a first relationship type to relate at least two concepts of the
7   plurality of atomic concepts associated with a first category of the
8   plurality of categories,
9   generating a second relationship type to relate at least one of the at least two
10   concepts related by the first relationship type to at least one different
11   concept of the plurality of atomic concepts,
12   generating a first relationship of the first relationship type with the first
13   concept,
14   generating a second relationship of the second relationship type with the first
15   concept,
16   storing on the persistent storage medium a first concept of the plurality of
17   atomic concepts, said first concept associated with the first category,
18   and
19   storing on the persistent storage medium the first relationship and the second
20   relationship in association with the first concept.